What is claimed is:

1. A method of conserving power consumption in a communication system which includes components capable of selectively entering a low power mode and an auto-negotiation feature by exchanging messages indicative of a low power mode capability, using an auto-negotiation feature to interpret exchanged signals to verify that connected systems include the low power mode capability, and transmitting a signal that a communications session is completed to cause connected systems to enter the low power mode.

2. The method of claim 1 wherein said auto-negotiation feature is a next-page facility.

3. The method of claim 1 including a further step of employing the auto-negotiation feature further to verify that the connected systems are eligible to enter the low power mode.

4. In a system utilizing a data communication device having a plurality of data exchange modes, each of said modes operating at different speeds, one of which speeds consumes less power than another, protocol means for compatibly coupling said data communication device to another data communication device for exchanging data therebetween, and selection means in said data communication device for a data exchange mode having a higher speed than the others, a method for switching to a least power consuming speed which consumes when in an idle mode by exchanging data representative of said data communication devices ability to operate at the least power consuming speed, decoding via said protocol means said representative data, and changing to said least power consuming speed in response to another protocol signal.

5. In a local area network which includes Ethernet data terminal equipment capable of low power modes and employing auto-negotiation, a method for conserving power consumption during periods of low usage by using a next-page aspect of the auto-negotiation feature to communicate among terminal data equipment each equipment's capability to assume a low power mode, detecting periods of low network usage, verifying in response to detection of low network usage that each equipment is eligible to assume the low power mode by use of the auto-negotiation feature, and asserting signals to put each eligible equipment in a low power mode of operation.